

REMARKS

The applicants appreciate the Examiner's careful examination of this case. Reconsideration and re-examination are respectfully requested in view of the instant remarks.

In paragraph 2 of the Office Action, the Examiner has objected to the drawings as not showing every feature of the invention specified in the claims. An amended Figure 2 is filed herewith to meet this objection. In the amended Figure 2, the image generator 4 now shows a high resolution channel 4h and three low resolution channels 4a, 4b and 4c. Each channel of the image generator 4 is considered in Figure 2 to be a discrete source. A host computer 6 provides control and position information to the image generator 4 and image processing unit 8. Reference numeral 12 shows schematically the wide angle display apparatus of Figure 1 with each projector identified, for example A₁, A₂ etc. In Figure 2, the changing of the high and low resolution images to a common format occurs in the image processing unit 8.

In reviewing the description for the amendment referred to above, it was noted that the paragraph on page 7 had a spelling error in that "by-linear" should have been "bi-linear", and that "image generation apparatus 2" should have been "image generator 4". A corrected paragraph correcting these two errors has been proposed above.

In paragraphs 3 – 9 of the Office Action, the Examiner has rejected Claims 6 – 9 and 11 as being unpatentable over Bogart et al, USA Patent No. 5,239,625. The applicants respectfully disagree with this objection for the following reasons.

In paragraph 5 of the Office Action, the Examiner says that Bogart et al discloses a method of operating image display apparatus, which method comprises combining in a common pixel format a low resolution image component from a first source. The Examiner supports his view by referring to column 4 lines 15 – 42 of Bogart et al.

It is noted that column 4 lines 12 – 13 of Bogart state the following:

An input image containing text and graphics at a high resolution and raster images at a low resolution.

This indicates that Bogart et al only discloses a single image source. Figure 1A of Bogart et al also shows a single image source and it is identified as such in Figure 1A. More specifically, column 4 lines 49 – 50 of Bogart et al state the following:

Fig. 1A is an input image having high resolution and low resolution elements.

Therefore it is believed clear from the above that Bogart et al only discloses a single image source.

The Examiner goes on to say that Bogart et al also discloses a high resolution image component from a second source which is different from the first source. The Examiner supports his view by referring to column 4 lines 15 – 42 of Bogart et al. As stated above, Bogart et al discloses only a single image source. At column 4 lines 14 – 22, Bogart et al discloses an input image that is rasterized twice. The first rasterization is carried out on only the low resolution elements of the input image. The second rasterization is carried out on only the high resolution elements of the input image. Bogart et al discloses only a single source which is the input image.

The Examiner also says that Bogart et al discloses a method in which the common pixel format is the pixel format of a high resolution image which forms the second source and from which the high resolution image component is obtained. In support of this, the Examiner refers to Bogart et al at column 4 lines 15 – 42. It is noted that Bogart et al discloses at column 5 lines 30 – 32 the following:

Both the high resolution and low resolution images are
"rasterized", or converted to a pixel by pixel
representation,.....

Therefore, both the high resolution images and the low resolution images need to be converted, indicating that the pixel format of the high resolution image is not used as the common pixel format.

Bogart et al also discloses at column 4 lines 12 – 14 the following:

An input image containing text and graphics objects at a high resolution.

Bogart et al further discloses at column 2 lines 25 – 31 the following:

Because text and graphics objects are usually made up of geometric shapes of single colours and covering large areas relative to the size of a single pixel, they can be created and stored in a computer using mathematical descriptions rather than by individual definitions of each pixel.

Thus in Bogart et al, the format of the high resolution image must first be changed before any other operations can be carried out on it.

The Examiner further says that Bogart et al discloses the applicants' feature of the high resolution image component being able to be positioned anywhere in a display obtained from the image display apparatus. In support, the Examiner refers to column 4 lines 15 – 42 of Bogart et al. It is noted that column 2 lines 12 – 14 of Bogart et al disclose the following:

An input image containing text and graphics objects at a high resolution and raster images at a low resolution.

It is also noted that column 4 lines 49 – 50 and Figure 1A disclose the following:

Fig. 1A is an input image having high resolution and low resolution image elements.

Bogart et al discloses that Figure 1A shows a document that undergoes graphic reproduction. Bogart et al discloses a method by which a document is reproduced graphically in order that it can be recorded on photosensitive film, which is then used for printing purposes. The method disclosed by Bogart et al does not allow for the high resolution image to be positioned anywhere in the document. In Bogart et al, the position of the high resolution image is determined by its position in the original document and, as such, this position is fixed.

As the Examiner admits in paragraph 5 of the Office Action, Bogart et al also does not disclose that the low resolution is a wide field of view, and that the high resolution is a narrow field of view.

Furthermore, the applicants' image display apparatus combines in a common pixel format low resolution wide field of view image component from a first source, and a high resolution narrow field of view image component from a second source. Clearly two separate image sources are required, which is not disclosed in Bogart et al, and also the image sources are video image sources combined in real time by the apparatus of the present invention, and not in a single document or a single frame of graphics as disclosed by Bogart et al.

In view of all the above reasons, it is believed that Claim 1 is clearly both novel and inventive over Bogart et al.

The applicants rely for patentability of Claims 7 – 9 and 11 on the fact that these claims include all of the features of Claim 6, which Claim 6 is believed to be allowable for the above stated reasons.

In paragraphs 10 and 11 of the Office Action, the Examiner rejects Claim 10 as obvious over Bogart et al in view of Lauer et al, USA Patent No. 5,523,769. Claim 10 is believed to be patentable because it includes all of the features of Claim 6, and Claim 6 is believed to be clearly allowable over Bogart et al for the reasons mentioned above. If Lauer et al is combined with Bogart et al, then the resulting combination is deficient for the reasons specified above in connection with the applicants' Claim 6.

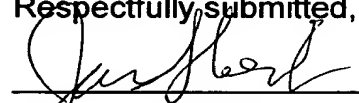
Also in connection with Claim 10, it is noted that the Examiner says that Bogart et al does not specifically disclose in which the frame buffer is segmented to drive a matrix of display devices. The Examiner says that this is disclosed in Lauer et al in Fig. 1A and 2A, and at column 5 lines 3 – 15 and column 6 lines 51 – 61. The Examiner says that it would be obvious to one of ordinary skill in the art to use a frame buffer to drive a matrix of displays as in Lauer et al with a system of Bogart et al, because this would allow having higher resolution displays. This is denied. More specifically, as mentioned above, Bogart et al does not disclose anything like the applicants' invention as claimed in Claim 6. Therefore it would not be obvious to one of ordinary skill to use Lauer et al to drive a matrix of displays. In particular, it would not be obvious as the applicants' invention as defined in Claim 6 can insert the high resolution image anywhere in the low resolution background image. Therefore the high resolution image could be positioned on any one of the matrix displays, and indeed moves between displays. Lauer et al discloses a matrix display that appears to be a single seamless device, and does not indicate that images can be positioned anywhere within the display.

In accordance with the applicants' duty to disclose all known prior art, it was mentioned in the applicants' Response to the first Office Action that the Assignee of the applicants have a corresponding United Kingdom patent application on which a search has been conducted. The patents cited by the United Kingdom Patent Office Examiner were mentioned and an Information Disclosure Statement was filed. After the filing of this Information Disclosure Statement, it is mentioned that the United Kingdom Patent Office Examiner cited a new patent which was EP 0423930. This new patent has been made the subject of a second Information Disclosure Statement. EP 0423930 is not believed to affect the allowability of the above claims, nor the above submissions.

Accordingly, it is respectfully submitted that this application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this **RESPONSE** is found to be **INCOMPLETE**, or if at any time it appears that a **TELEPHONE CONFERENCE** with Counsel would help advance prosecution, please telephone the undersigned or one of his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,



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